Climate & Waste Connection

WWC Conference

Weds, Nov 14th – Wash, D.C.

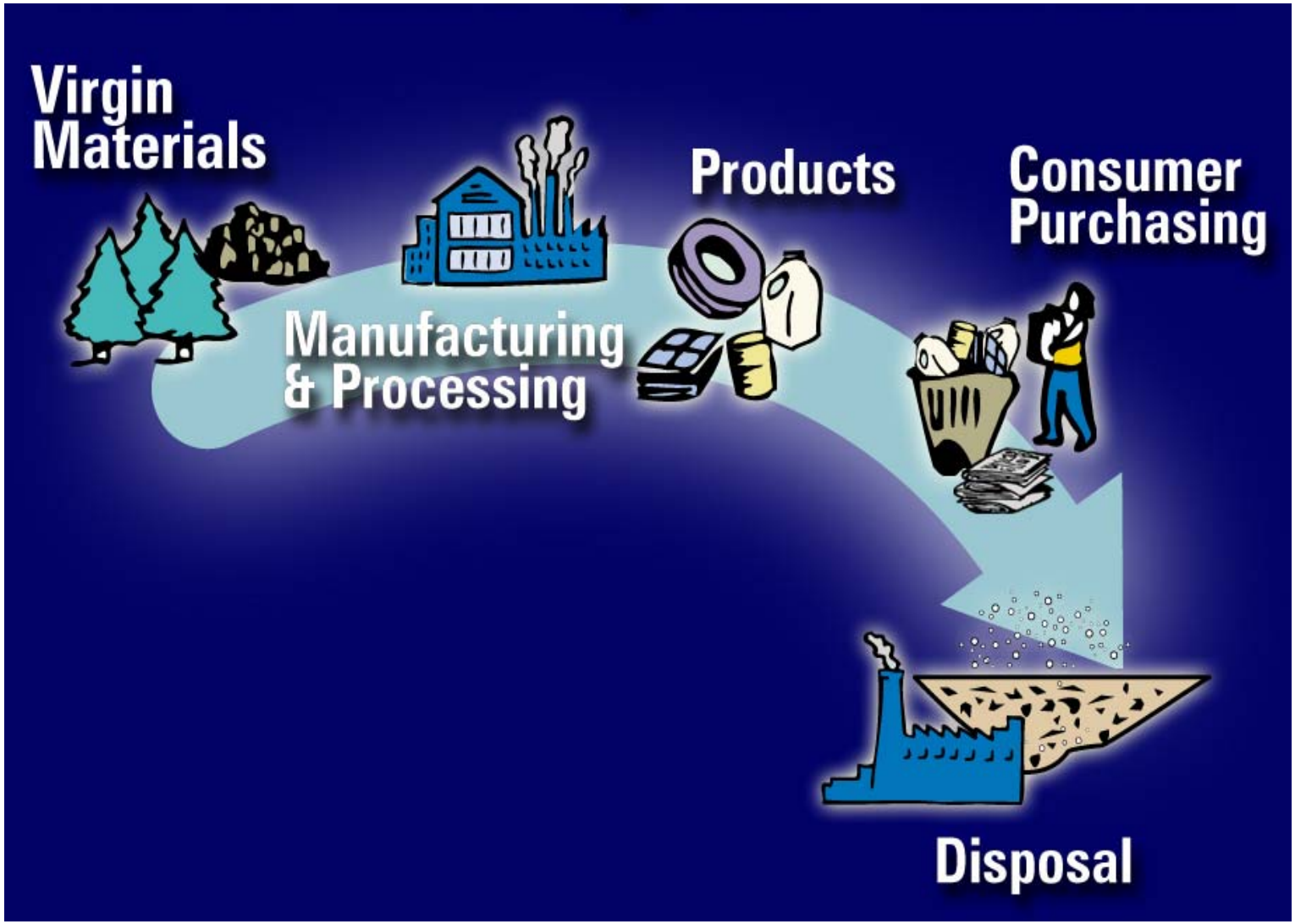
Recycling Matters…!

Impacts of Climate Change

- Intense, frequent storms
- Flooding of coastal areas… beaches and bay marshes
- Increased intensity of droughts and forest fires
- Increased distribution of infectious diseases

Product Life Cycle—Linear

CO2



CH4

Product Life Cycle—Cyclical

Benefits from Cyclical Cycle

- Conserving Natural Resources
- Decreasing Lifecycle costs for extraction, manufacturing, combustion, landfilling
- Reducing GHG emissions
- Mitigating climate change impacts

Climate & Waste Reduction

Voluntary programs can help reduce both Wastes and Greenhouse Gases.

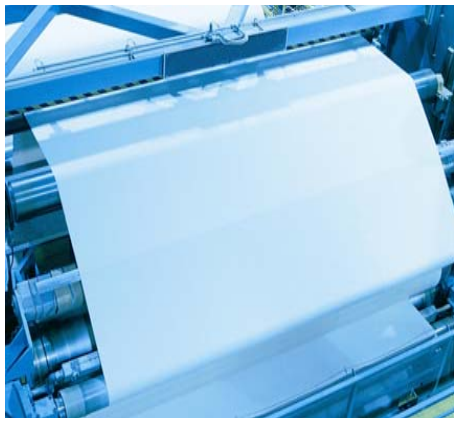
- **WasteWise**
- **Pay-As-You-Throw (PAYT)**

NOV 14th – Wash, DC

WasteWise – NOV 14th conference

- Partner w/companies… to promote WR… and, to save money… throughout the manufacturing processes.
- Provides Partners with data on their GHG emissions reductions (based on waste reduction)

Equivalent to 5.8 million cars off road/year!



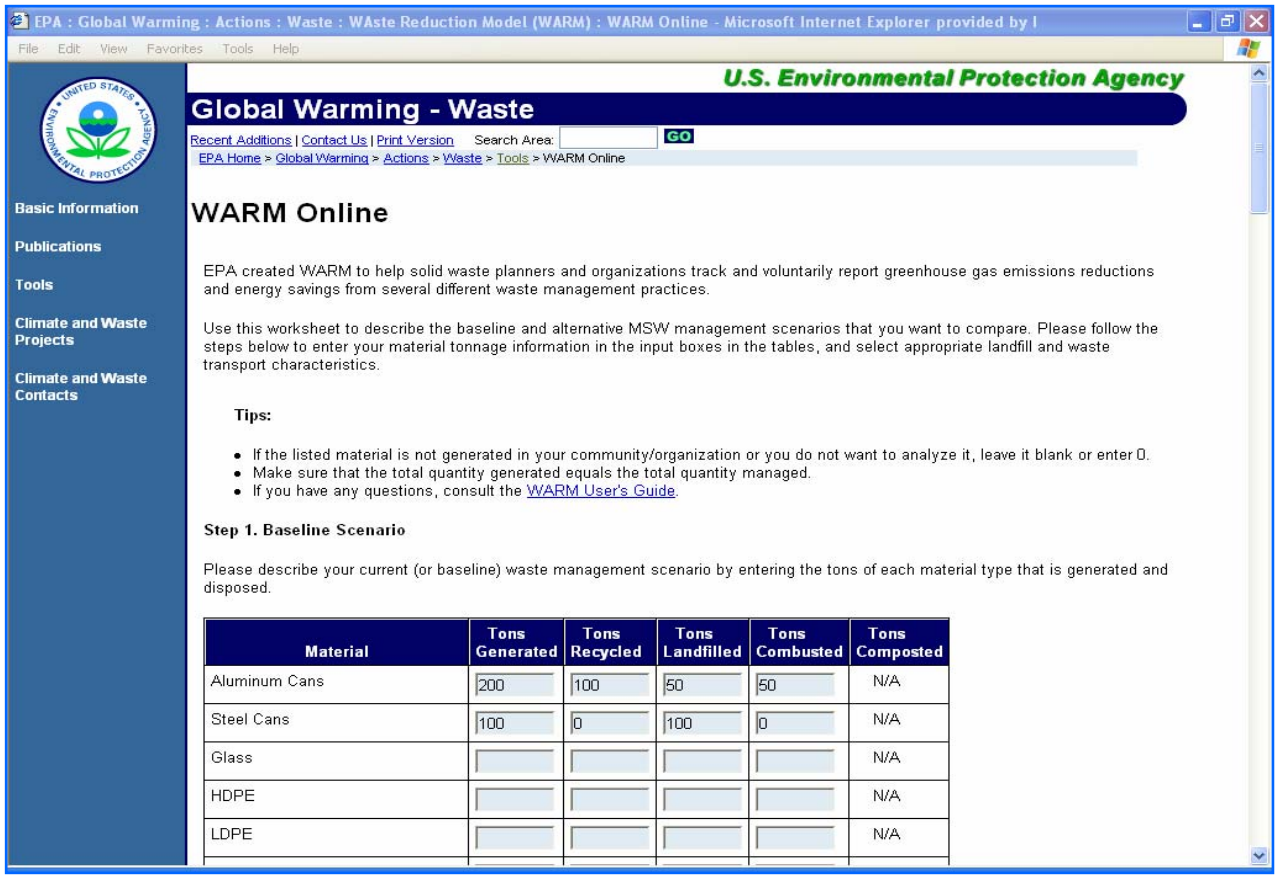
EPA WASTE WISE Climate Campaign

Waste Reduction Model (WARM)

Microsoft Excel software

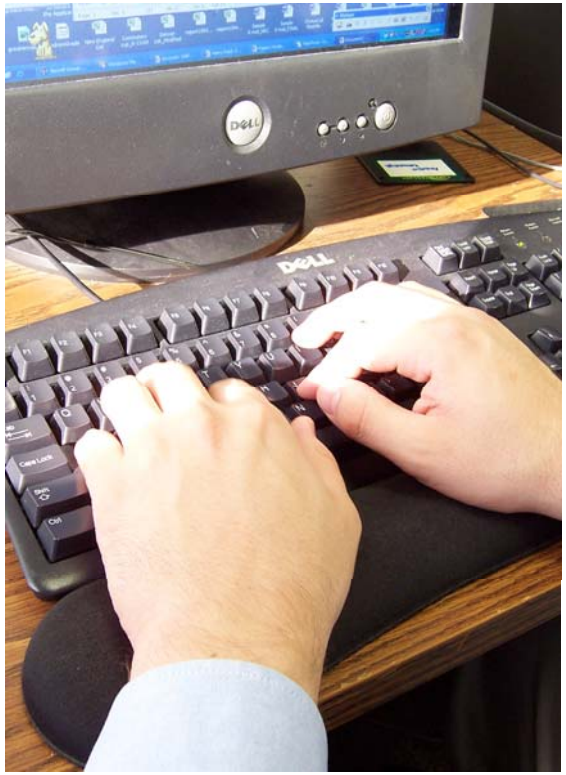
Online Summary Report

Measures GHG reductions



Measurement Tools

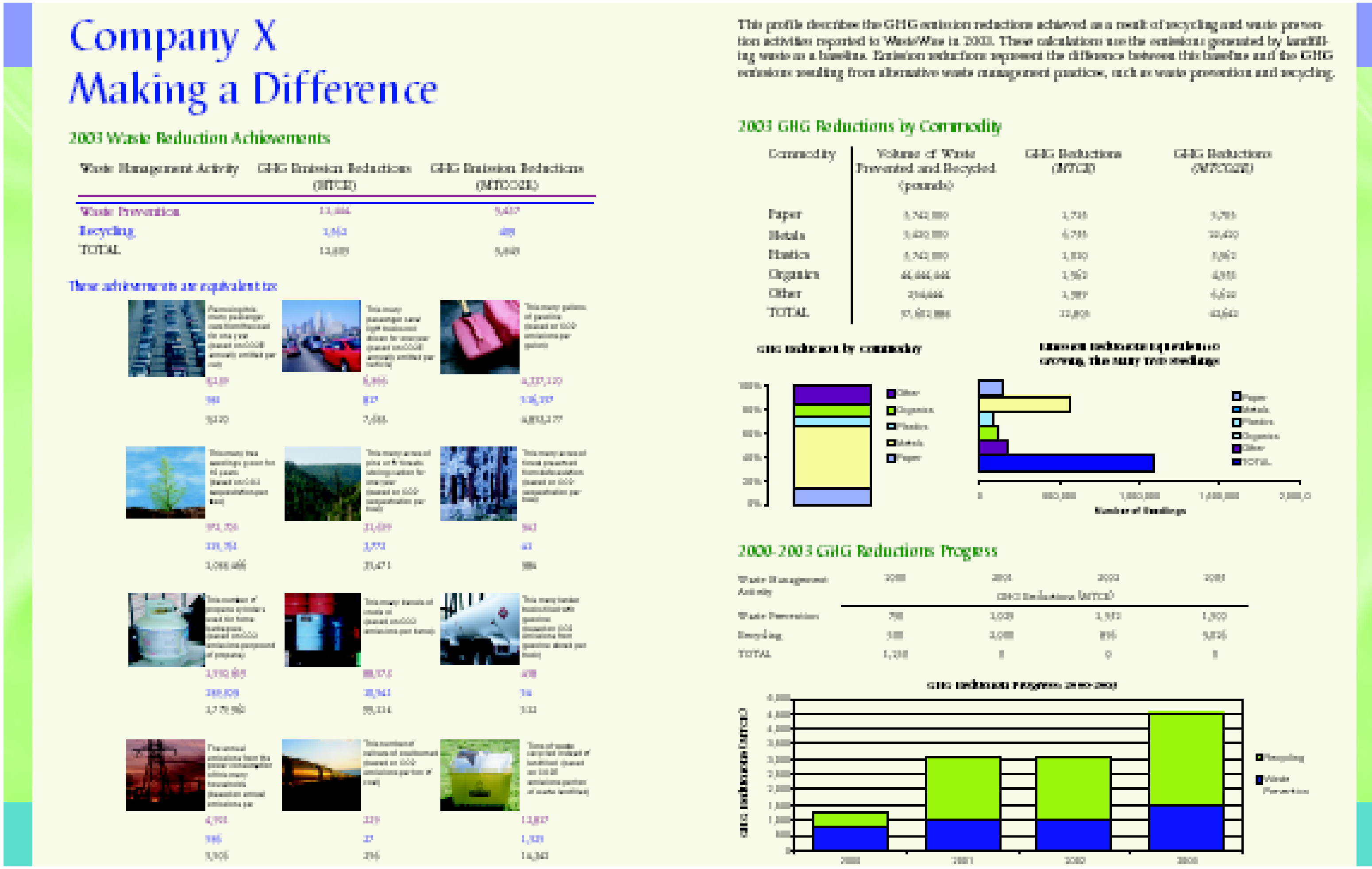
- Tools
  - Updated version of WARM
  - ReCon —
    Recycled Content Tool



- 30+ Emission factors
  - Fly ash
  - Concrete
  - Brick
  - PCs
  - Carpets

www.epa.gov/climatechange

Climate Profile



Company X
Making a Difference

2003 Waste Reduction Achievements

Waste Management Activity	GHG Emission Reductions (MTCE)	GHG Emission Reductions (MTCO2E)
Waste Prevention	[illegible]	[illegible]
Recycling	[illegible]	[illegible]
TOTAL	[illegible]	[illegible]

These achievements are equivalent to:

This profile describes the GHG emission reductions achieved as a result of recycling and waste prevention activities reported to WasteWise in 2003. These calculations use the emissions generated by landfilling waste as a baseline. Emission reductions represent the difference between this baseline and the GHG emissions resulting from alternative waste management practices, such as waste prevention and recycling.

2003 GHG Reductions by Commodity

Commodity	Volume of Waste Prevented and Recycled (pounds)	GHG Reductions (MTCE)	GHG Reductions (MTCO2E)
Paper	[illegible]	[illegible]	[illegible]
Metals	[illegible]	[illegible]	[illegible]
Plastics	[illegible]	[illegible]	[illegible]
Organics	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]
TOTAL	[illegible]	[illegible]	[illegible]

2000-2003 GHG Reductions Progress

Companies & Cities….

…reducing Waste and
their Climate Footprint.

WasteWise Communities

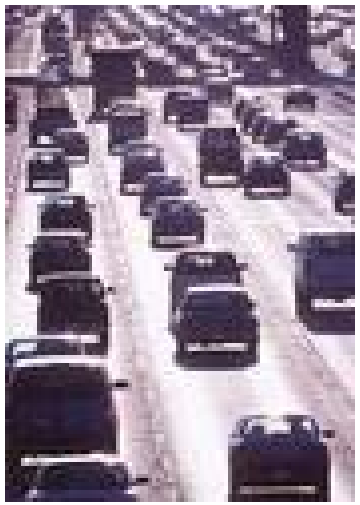
A new WasteWise campaign focusing on reducing residential municipal solid waste (MSW).

Fall Conference – Nov, 14th – Wash., DC

Cities Contribute to the Problem and Can Create the Solutions

Local governments influence all major sources of global warming pollution

Energy



Transportation

Solid Waste

I·C·L·E·I
Local Governments for Sustainability

Cities reduce GHGs…

- EPA Goal: Increase national recycling rate of MSW to 35% & reduce GHGs.
- EPA is working with Partners & Stakeholders through existing and new projects.

EPA WASTE WISE

ENVIRONMENT PAYT EQUITY ECONOMY

GreenScapes
Environmentally Beneficial Landscaping

RecycleMania

Recycle on the GO

AMERICA'S MARKETPLACE RECYCLES!

Pay-As-You-Throw (PAYT)

In PAYT cities… residents are charged for the collection of municipal solid waste—ordinary household trash—based on the amount they throw away.

This creates a direct economic incentive to recycle more and to generate less waste.

PAYT Functions Like a Utility

- Pay for waste like a utility
- Only pay for what they use

Duke University National Study

- **32 to 59% increase in Recycling**
- 19% found slight increase in illegal dumping

This report is available online at
www.epa.gov/epaoswer/non-hw/payt/pdf/swlitrep.pdf

2007 PAYT Research Highlights

- PAYT has diverted ~ **6 million tons MSW / yr**
- GHG Effects **-** leads to reductions of **10 MMTCE**
- Reduces Energy use by ~ **85 million BTU's** annually.

Examples of U.S. City Savings

- **Wilmington, NC**— (Population: 75,000) $400,000 per year
- **Littleton, NH**— (Population: 5,800) $40,000 in extra funds with PAYT
- **Gainesville, FL**— (Population: 96,000) $186,200 savings
- **San Jose, CA**— (Population: 850,000) reduced cost by $ 4 million annually
- **Ft. Worth, TX** – disp. costs dropped >$7 million

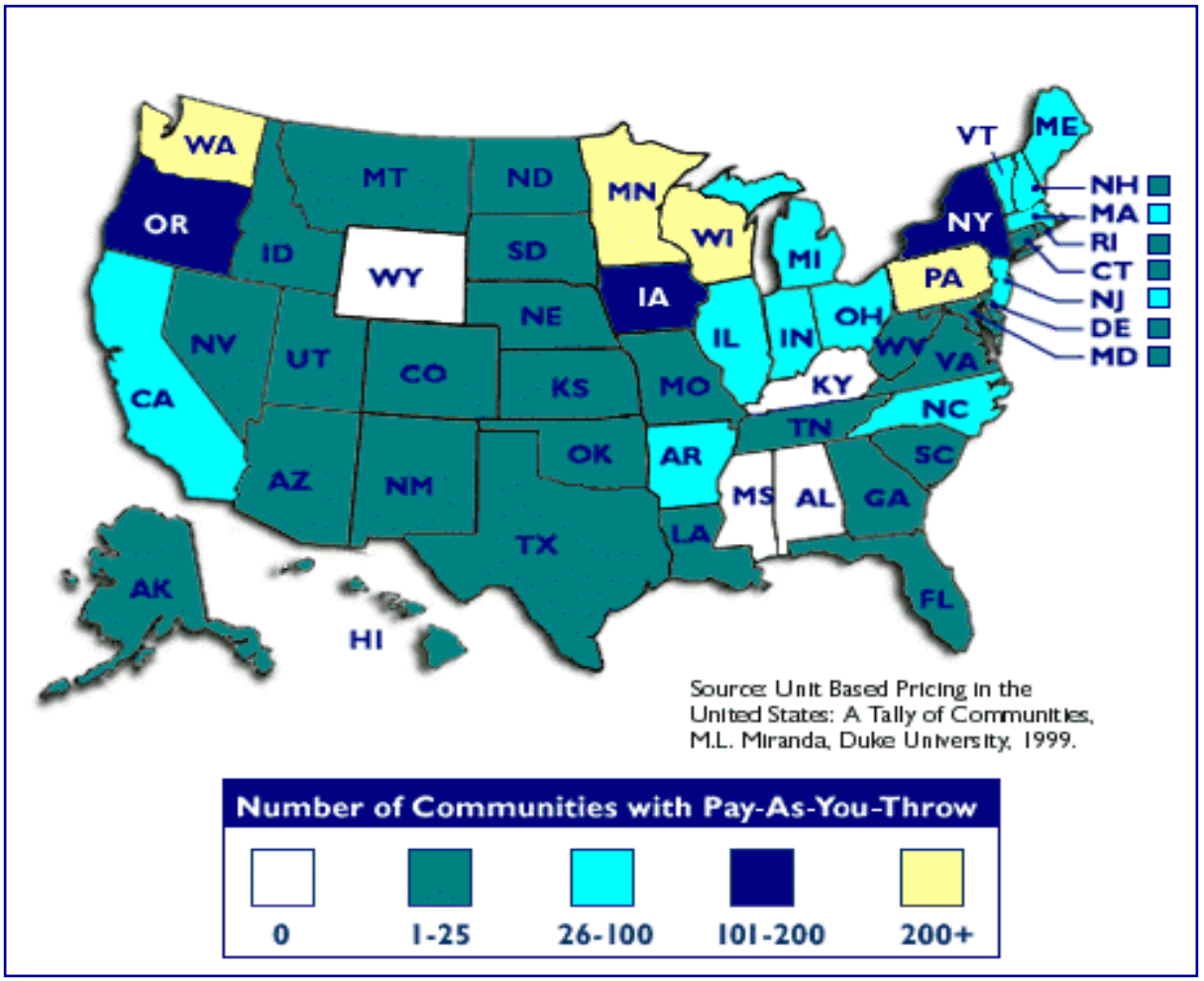
PAYT Partnerships

- USCM
- ICMA
- ICLEI
- SWANA
- NRC

- MA DEQ, NH Recyclers, CIWMB, Urban Recyclers
- ILSR
- Reason Foundation
- American Council for Capital Formation

Successes—PAYT

More than 7,000 PAYT cities in the U.S.



Large Cities and PAYT

City	*Population*	*Recycling Rate*
Ft. Collins, CO	118,652	83%
Athens, GA	100,266	72%
San Jose, CA	782,248	64%
Portland, OR	437,319	57%
San Francisco, CA	723,959	46%
Dubuque, IA	57,686	38%
Portland, ME	230,000	35%
Platteville, WI	9,858	35%
Taunton, MA	56,647	34%
Ft. Worth, TX	1,728,826	20%

2007 PAYT Research Highlights

- 30 of the largest 100 cities use PAYT.
- Now in **25% of U.S.,** (~ 75 million people)
- **Penetration in U.S. -** Largest share of PAYT cities in CA, IA, MA, MI, MN, NH, NY, OR, WA, and WI
- MN, NH, OR, WA, & WI have >75%.

PAYT reduces Climate Change

Links Garbage & Global Warming

If 200 more cities adopt PAYT & reduced their waste by 20%

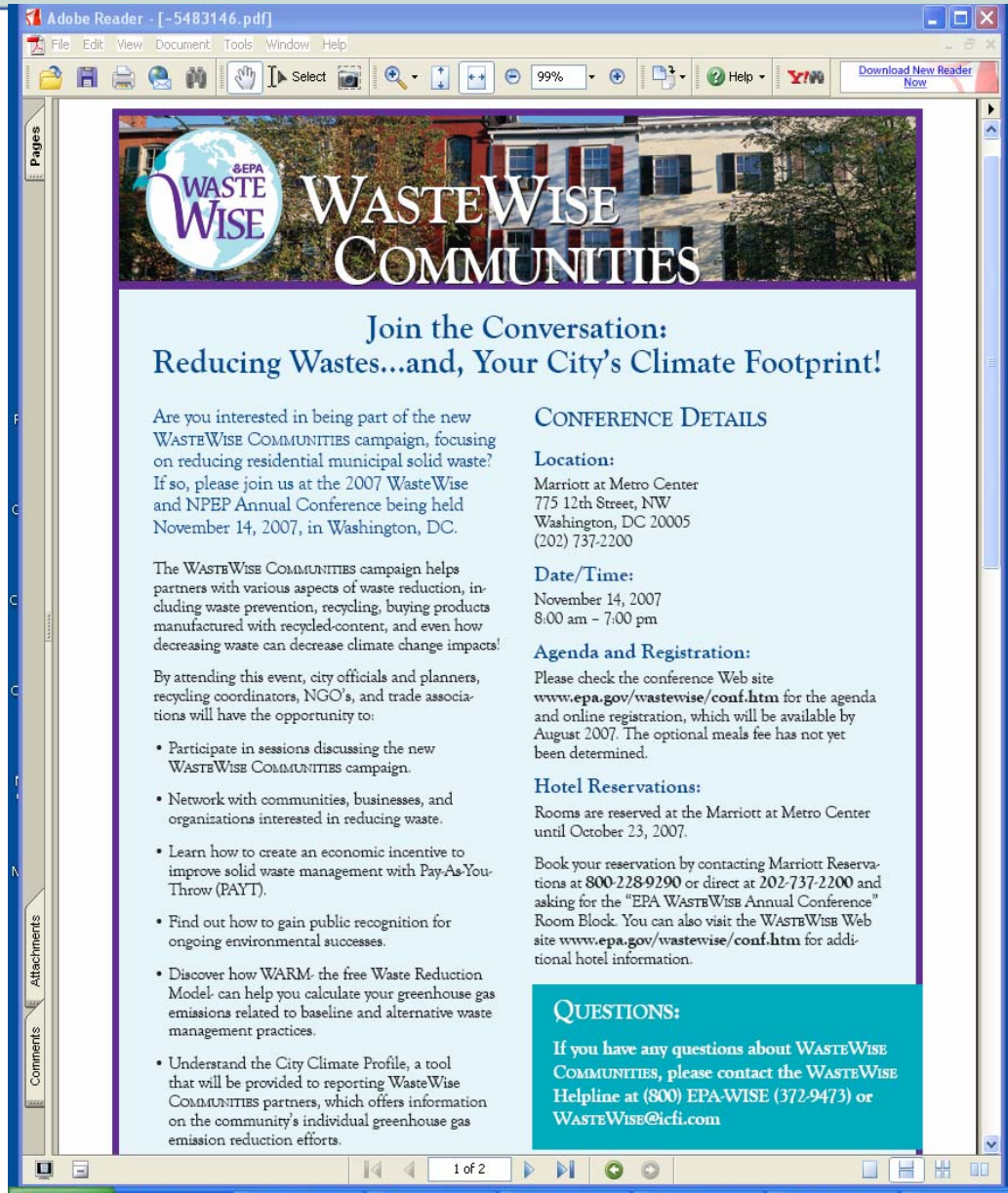
WARM ➔

3.8 million MTCE reduction…

(equivalent to removing nearly 2.8 million cars/yr from the road)

98 million cars off road… total

WWC – NOV 14th – Join Us…!

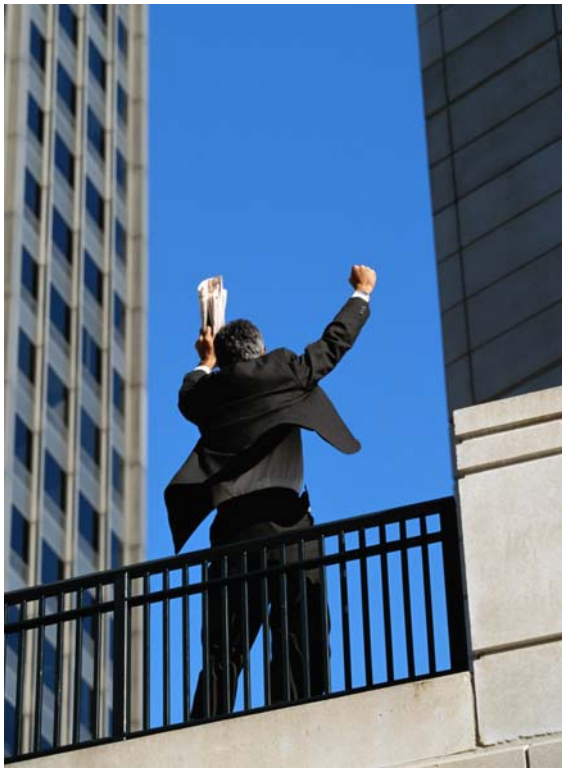


We Want to Recognize You

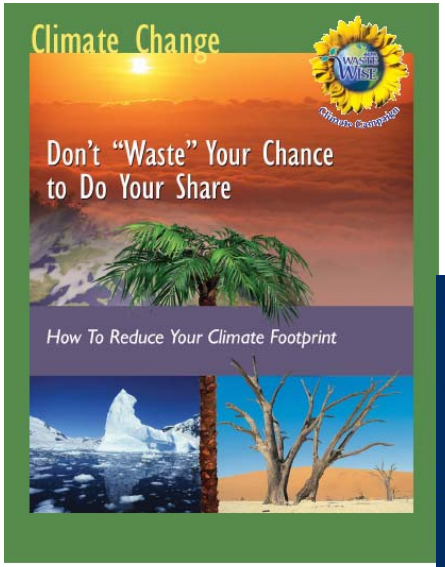
...through Case Studies, Articles, and WasteWise Climate Awards.

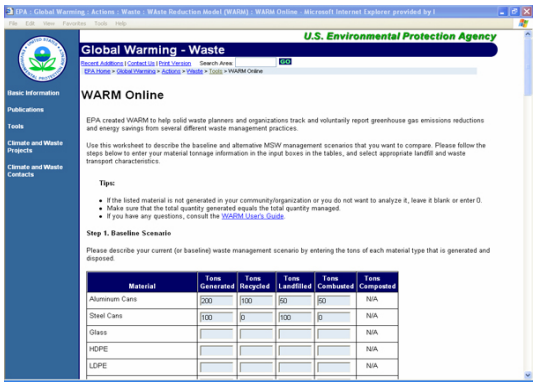
New Award Categories?

- Climate Education
  (Internal / External)
- Climate Endorser
- Climate Philanthropy

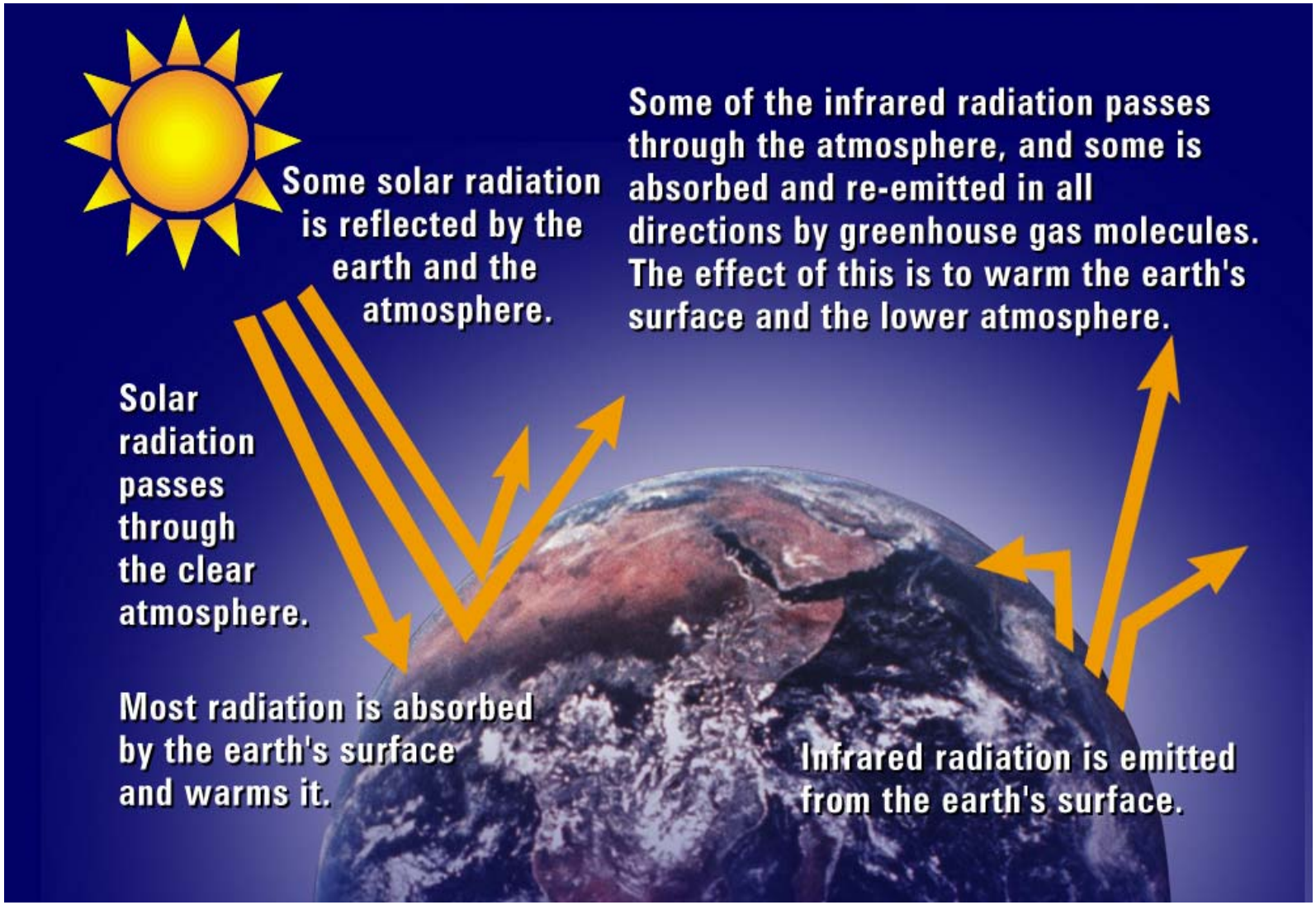


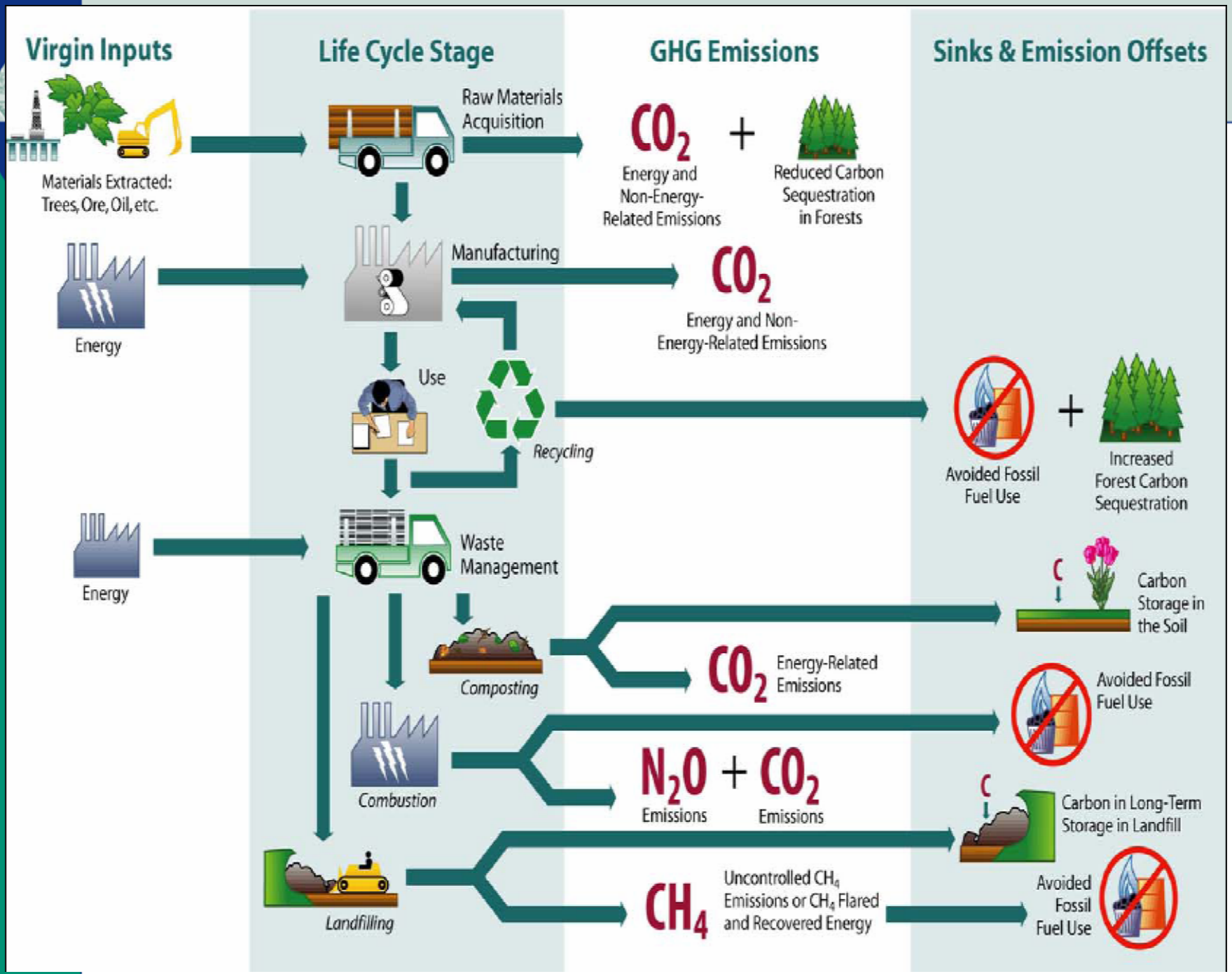
C&W Tools and Resources





The Greenhouse Effect




Virgin Inputs
Life Cycle Stage
GHG Emissions
Sinks & Emission Offsets
Materials Extracted: Trees, Ore, Oil, etc.
Raw Materials Acquisition
CO_2
Energy and Non-Energy-Related Emissions
+
Reduced Carbon Sequestration in Forests
Energy
Manufacturing
CO_2
Energy and Non-Energy-Related Emissions
Use
Recycling
Avoided Fossil Fuel Use
+
Increased Forest Carbon Sequestration
Energy
Waste Management
C
Carbon Storage in the Soil
Composting
CO_2
Energy-Related Emissions
Avoided Fossil Fuel Use
Combustion
N_2O + CO_2
Emissions
Emissions
C
Carbon in Long-Term Storage in Landfill
Landfilling
CH_4
Uncontrolled CH_4 Emissions or CH_4 Flared and Recovered Energy
Avoided Fossil Fuel Use